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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,238	12/07/2001	Miriam G. Blatt	03226.073001;P5521	5843
32615	7590	12/08/2005	EXAMINER	
OSHA LIANG L.L.P./SUN 1221 MCKINNEY, SUITE 2800 HOUSTON, TX 77010			STEVENS, THOMAS H	
			ART UNIT	PAPER NUMBER
			2123	
DATE MAILED: 12/08/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,238	BLATT ET AL.	
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-3, 5-8, 10-13 were examined.
2. Claims 4 and 9 were cancelled.

Section (Non-Final Rejection) (3rd Office Action)

Joint Inventors Common Ownership Presumed

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Interpretation

4. Office personnel are to give claims their "**broadest reasonable interpretation**" in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See *also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow") The reason is simply that during patent prosecution when claims can be amended, ambiguities should

be recognized, scope and breadth of language explored, and clarification imposed

An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process. The examiner claims inherency regarding one current and voltage cycle to a plurality of currents and voltages cycles.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-3, 5-8, 10-12 are rejected under 35 U.S.C. 101 as non-tangible since the claims read on an abstract idea with little or now post-solution activity. Accordingly, an “abstract idea” when practically applied to a useful end is eligible for a patent. State Street, 149 F.3d at 1374, 47 USPQ2d at 1601 (“a process, machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea is patentable subject matter even though a law of nature, natural phenomenon, or abstract idea would not, by itself, be entitled to such protection.”) (emphasis added); see also Alappat, 33 F.3d at 1543, 31 USPQ2d at 1556-57(holding that “certain types of mathematical subject matter, standing alone, represent nothing more that abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled to patent protection.”).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1-3, 5-8, 10-¹³~~12~~ are rejected under 35 U.S.C. 102(b) as being disclosed by Bogliolo et al., ("Gate-Level Power and Current Simulation of CMOS Integrated Circuits" (1997)) (hereafter Bogliolo). Bogliolo discloses a new gate-level approach to power and current simulation (abstract).

Claim 1. A method for analyzing a power modeling simulation, comprising: receiving a plurality of values of power data from a power modeling simulator (pg. 484, left column 3rd paragraph); generating summary information relating to single cycle (pg.475, right column, 3rd paragraph) behavior of the power data, comprising calculating absolute values of a peak and a lowest value of the power data wherein the power data (pg. 485, left column, 2nd paragraph) is associated with a specific cycle (pg.475, right column, 3rd paragraph) in the power modeling simulation; and analyzing the power modeling simulation using the summary information (pg.484, table 1).

Claim 2. The method of claim 1, wherein generating summary information comprises: calculating a value of a single-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph), wherein the single-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives:

pg.483, left column, 2nd paragraph) is a derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) of two particular power data in a set of successive cycles (pg.475, right column, 3rd paragraph).

Claim 3. The method of claim 2, wherein the single-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) is a peak single-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph).

Claim 5. A method of analyzing power modeling simulation, comprising: receiving a plurality of values of power data from a power modeling simulator; generating summary information relating to multiple cycle (pg.475, right column, 3rd paragraph) behavior of the power data comprising calculating an average value of the power data across a plurality of cycle (pg.475, right column, 3rd paragraph), wherein the power data (pg. 485, left column, 2nd paragraph) is associated with a current cycle (pg.475, right column, 3rd paragraph) is included with data from previous cycle (pg.475, right column, 3rd paragraph) in the power modeling simulation; and analyzing the power modeling simulation using the summary information (pg.484, table 1).

Claim 6. The method of claim 5, wherein generating summary information comprises: calculating a multiple-cycle (pg.475, right column, 3rd paragraph) power average, wherein the multi-cycle (pg.475, right column, 3rd paragraph) power average (pg. 485,

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left column, 2nd paragraph) is an average of power data over a plurality of cycle (pg.475, right column, 3rd paragraph).

Claim 7. The method of claim 6, wherein a length of the plurality of cycles (pg.475, right column, 3rd paragraph) is fixed.

Claim 8. The method of claim 6, wherein generating summary information further comprises: calculating a peak value of the multi-cycle (pg.475, right column, 3rd paragraph) power average.

Claim 10. A method of data analysis for a power modeling simulation, comprising: receiving a plurality of values of power data from a power modeling simulator (pg. 484, left column 3rd paragraph); generating summary information relating to a multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) of the power data, wherein each power data is associated with at least one cycle (pg.475, right column, 3rd paragraph) in a simulation, and wherein the multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) is a derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) of at least two particular power data in non-successive cycles (pg.475, right column, 3rd paragraph); and analyzing the power modeling simulation using the summary information (pg.484, table 1).

Claim 11. The method of claim 10, further comprising: calculating a value of the multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph).

Claim 12. The method of claim 11, further comprising: setting a threshold (the suggestion of threshold: pg.480, left column, 2nd paragraph) value as a reference value for determining the end of a current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph); calculating a single-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph); calculating a derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) of a start value and an end value of associated power data in the current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph); calculating a ratio (the suggestion of the size of the ratio between input and outputs: pg.475, right column, 3rd paragraph) of the value of the single-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) over the value of a derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) of the start value and the end values of associated power data derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) when the direction of the current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) changes; and generating the value and its cycle (pg.475, right column, 3rd

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paragraph) of the multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) when the ratio (the suggestion of the size of the ratio between input and outputs: pg.475, right column, 3rd paragraph) becomes larger than the threshold (the suggestion of threshold: pg.480, left column, 2nd paragraph) value, wherein the single-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) is a derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) of two particular power data in successive cycles (pg.475, right column, 3rd paragraph).

Claim 13. The method of claim 11, further comprising: setting a threshold (the suggestion of threshold: pg.480, left column, 2nd paragraph) value that is a reference value for determining the end of a current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph); calculating a difference from a highest value to a current value of the power data in the current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph); calculating a difference from the highest value to a start value of the power data in the current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph); calculating a ratio (the suggestion of the size of the ratio between input and outputs: pg.475, right column, 3rd paragraph) of the difference from the highest value to the current value of the power data over the difference from the

highest value to the start value of the power data in the current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) when the direction of the current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) changes; and generating the end-value and its end-cycle (pg.475, right column, 3rd paragraph) of the current multi-cycle (pg.475, right column, 3rd paragraph) derivative (the suggestion of derivatives: pg.483, left column, 2nd paragraph) when the ratio (the suggestion of the size of the ratio between input and outputs: pg.475, right column, 3rd paragraph) becomes larger than the threshold (the suggestion of threshold: pg.480, left column, 2nd paragraph) value.

Section II: Response to Applicants' Arguments (2nd Office Action)

103(a)

8. Applicant's arguments, see pages 5-10, filed 10/24/05, with respect to the rejection of claims 1-13 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Bogliolo et al.

Citation to Relevant Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent 6,397,172: discloses an IC design computer simulation tool to model circuit voltages
- Brown et al., "Overview of Complementary GaAs Technology for High-Speed VLSI Circuits", discloses a self-aligned complementary GaAs technology for low-power, portable, digital and mixed-mode circuits.

- Bogliolo et al., "Node Sampling: a Robust RTL Power Modeling Approach", discloses a robust RTL power modeling methodology for functional units.
- Gupta et al., "Analytical Models for RTL Power Estimation of Combinational and Sequential Circuits" discloses a modeling technique that captures the dependence of the power dissipation of a logic circuit on its input/output signal switching statistics.

Correspondence Information

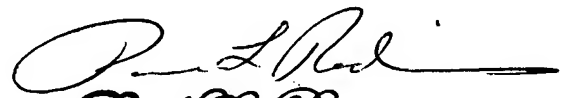
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Leo Picard ((571) 272-3749). The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

November 30, 2005

TS


Paul L. Rodriguez 12/6/05
Primary Examiner
Art Unit 2125